

CLAIMS

1. An isolated mite protein comprising of at least about 83 amino acids of the sequence disclosed in SEQ ID NO. 2, said 83 amino acids being essentially identical to the amino acid sequence disclosed in SEQ ID NO 3.
2. A protein according to claim 1, which comprises at least about 400, such as about 427, amino acids of the sequence disclosed in SEQ ID NO. 2.
3. A protein according to claim 2, which is comprised of the last about 427 amino acids of the sequence disclosed in SEQ ID NO. 2.
4. An isolated nucleic acid encoding a protein according to any one of claims 1-3.
5. A nucleic acid according to claim 4, the nucleotide sequence of which is substantially identical with bases no 1030-1279 of the sequence disclosed in SEQ ID NO. 1.
6. A nucleic acid which hybridizes specifically under stringent conditions to a nucleic acid according to claim 4 or 5.
7. An expression vector which comprises a nucleic acid according to any one of claims 4-6.
8. A recombinant cell comprising a vector according to claim 7.
9. A method for producing a protein, which method comprises the steps of
- (a) providing a DNA according to any one of claims 4-6;
 - (b) introducing said DNA in an expression vector;
 - (c) insertion of said vector into a suitable host cell;
 - (d) culturing said host cell to obtain the desired protein product; and optionally
 - (e) purification of the protein or polypeptide produced.
10. An antibody raised against a protein according to any one of claims 1-3.
11. An antibody according to claim 10, which is a monoclonal antibody.
12. Use of a protein according to any one of claims 1-3 in an immunosorbent assay, such as enzyme-linked immunosorbent assay (ELISA).
13. Use of a protein according to any one of claims 1-3 in a screening method wherein compounds having the same or similar biological activities as said protein are identified.

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14. A method for screening protein or peptide analogues that mimic at least a part of the structure of the protein according to any one of claims 1-3, which comprises the steps of
- 5 (a) producing a multiplicity of analogue structures and
(b) selecting an analogue structure, wherein the three-dimensional configuration and spatial arrangement of one or more biologically active regions remain substantially preserved.
- 10 15. A method according to claim 14, wherein analogues mimicking a protein having the amino acid sequence essentially as disclosed in SEQ ID NO 3 are screened for.
16. A protein according to any one of claims 1-3 for use as a vaccine.
17. Use of a protein according to any one of claims 1-3 in the manufacture of a vaccine preparation.
- 15 18. A vaccine preparation comprising a protein according to any one of claims 1-3 and a pharmaceutically and/or veterinary acceptable carrier.
19. A vaccine preparation according to claim 18 for the prevention of *Sarcoptes mange* or scabies.
20. A method of preventing a disease associated with mites, such as *Sarcoptes scabiei*, in a subject, such as a human, canine or porcine subject, which method comprises administration of a preparation according to claim 18 or 19 to said subject in a pharmaceutically effective dose.
21. A method according to claim 20, wherein said disease is *sarcoptes mange* or scabies.
- 25 22. A method for the diagnosis of a mite associated disease comprising the steps of
a) immobilising a protein according to any one of claims 1-3;
b) providing a sample suspected of being infected with said mite associated disease;
c) incubation of said sample with said immobilised protein; and
d) detection of any antibody bound to the immobilised antigen and thus specific for said mite associated disease; whereby a conclusion regarding the diagnosed condition is obtained.
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23. A method according to claim 22, wherein the mite associated disease is sarcoptic mange or scabies.

24. A kit for performing the method according to claim 22 or 23.

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